Space Weather Forecast

Issued on Tuesday 4 March 2025 at 12:57 Local

This forecast provides a four-day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: Chance of Moderate flares (Minor-Moderate radio blackouts) throughout. Chance of Minor/Moderate geomagnetic storm (G1/G2) late Day 1 into Day 2.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Activity is Low, with only occasional common class flare observed.

The facing side of the Sun displays eight sunspot regions, with one region unnumbered. A couple of these have shown some increase in complexity in the past UTC day, albeit to no notable result in flare activity thus far.

No Earth-directed Coronal Mass Ejections (CMEs) were identified in available satellite imagery.

Solar Wind / Geomagnetic Activity: Solar winds are easing after previous fast wind enhancement with Slightly Elevated speeds. The Interplanetary Magnetic Field was Weak and the north-south component was mainly northward directed. The net result of the above solar wind measures was Quiet geomagnetic activity.

Energetic Particles / Solar Radiation: No solar radiation storms were observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Moderate levels expected, with a Chance of isolated Moderate class flares.

Solar Wind / Geomagnetic Activity: A CME on 01/1730UTC from the southeast of the Sun may affect Earth as a glancing blow late on day 1 (4 March). This is the only CME in the forecast.

Slightly Elevated winds are expected to continue declining towards Background prior to any CME arrival.

Geomagnetic activity is expected to be mainly Quiet with a chance of G1 to G2 from any CME arrival.

Energetic Particles / Solar Radiation: No solar radiation storms are expected.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 370 900 0100 Email: enquiries@metoffice.gov.uk

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Geomagnetic Storms

Geomagnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	30	40	5	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X-Ray Flares

X-Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 (M Class)	No	40	50	50	50
Very Active	R3-R5 (X Class)	No	1	1	1	1

Solar Radiation Storms (High Energy Protons)

Radiation Storms Probability (Exceedance)	Level ($cm^{-2}sr^{-1}s^{-1}$)	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	5	5	10	10
Very Active	≥ S3 *	No	1	1	1	1
* S3 ≥ 10 MeV ≥ 1000 pfu and/or 50 MeV ≥ 10pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)						

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